KANSAS MEDICAL JOURNAL.

VOL. IX. TOPEKA, KANSAS, SATURDAY, JANUARY 23, 1897. No. 4.

ORIGINAL ARTICLES.

The Osseous Origin of Hip Joint Disease.

BY D. D. WILSON, M.D., NORTONVILLE, KAS.

Read before the joint meeting of the Eastern Kansas Medical Society and the Topeka Academy of Medicine and Surgery at Topeka, Kas., January 12, 1897.

The importance of a knowledge of the origin of hip joint disease cannot be over estimated. The prevention of deformity which follows many cases should be the object of treatment in all cases.

To prevent deformity is the keynote to treatment and of greater importance than its correction after being acquired. Therefore the study of the anatomical structure in which it originates is of great value to the surgeon, as it will often indicate the best line of treatment. I do not mean that it is absolutely necessary to study the histology of the structures involved in the formation of the hip joint only so far as it might aid us in finding the cause of certain pathological conditions existing in hip joint disease.

A brief description of the most important anatomical structures forming the hip joint, will suffice for the purpose for which this paper is intended.

The two bones entering into the articulation of this joint are the os innominatum and the head of the femur; the head of the femur being received into a deep cavity, lined with cartilage in all parts, except a small portion near the notch. The head of the femur is covered with cartilage, both the head of the femur and acetabulum being cancellous in structure and very vascular.

If the question of the anatomical structures primarily involved in hip disease can be definitely decided upon, and this can be shown to be of osseous origin, the treatment of the affection and prevention of consequent deformity will be made more clear.

With but few exceptions, all authors are agreed that hip disease is primarily a tubercular disease and not in any way the result of trauma.

With reference to disease of this joint, Senn says, "that it may begin in the synovial membrane or in the bone; but on account of the deep location of the joint, it is not easy during life to determine the relative frequency of each."

I am of the opinion, reasoning from the symptoms generally agreed upon in all typical cases, also from the principles of treatment usually adopted, and the principles upon which it is based, that by far the greater per cent. of all cases are of osseous origin, and that the point primarily affected is in the neck of the femur near the articular surface.

It is unnecessary to discuss the histological structure of the bone at this point, any more than to say on account of its being cancellous and extremely vascular it would naturally form a more favorable location for the lodgment of the bacilli than a less vascular structure.

To demonstrate the relation between the early symptoms and the principles of treatment usually adopted at the present day, it will only be necessary to mention a few of the prominent primary symptoms—those upon which all agree and are found at all times in typical cases:

1. Limitation of motion.

2. Muscular contraction and spasm, and many others.

Limitation of motion means only a certain amount of immobilization. A partial and immediate loss of function. Muscular contraction means intra articular pressure.

In the incipiency of this disease, we have then immobilization of the joint with intra-articular pressure. Dr. Phelps, an eminent authority, on speaking of the subject says: "Immobilization of a joint in such a position as to produce and continue intra-articular pressure will result in the destruction of the head of the bone and the socket against which it presses." There can be no question as to the truth of this statement. We have said that certain symptoms exist and are common in all cases, and the ones just mentioned are most common. Why is it that the same symptoms exist in all cases in the early stages, if the location of the disease is not the same in all cases? It is true there are exceptions to this rule.

Rest is nature's great means of limiting disease and assisting repair; as soon as disease begins to invade the structures about the joint, nature immediately tries to put the joint at rest by limitation of motion, or in other words, immobilization.

Why does nature do this? Is it possible that nature purposely partially destroys the function of the joint by immobilization and producing intra-articular pressure, in order that the articular surfaces may have their vitality lessened and thereby make them a more easy prey for the invading bacilli?

The disease progresses, muscular contraction follows; muscular contraction producing intra-articular pressure. The joint is then immobilized in such a position as to produce and continue intra-articular pressure. What is the result? Destruction of the head of the bone, or at least, a lessening of its vitality. Its vitality being lessened, it at once becomes the path of least resistance to the destructive process and tubercular diseases always follow the lines of least resistance.

Immobilization with pressure is in itself sufficient to injure the articular surfaces, while it is possible to immobilize a healthy joint for a long period of time, without destroying the function of the joint, it cannot be done with continuous intra-articular pressure.

It will be necessary at this point to state briefly the generally accepted principles of mechanical treatment in order to make more clear the line of thought:

1. Immobilization—to limit motion.

2. Extension and counter-extension, to relieve intra-articular pressure.

The simple immobilization of the joint would be sufficient if it were not for muscular contraction. This must be overcome, because it produces intra-articular pressure, and this in itself would destroy joint surfaces. If this is the condition and line of treatment, is it not reasonable to conclude from the symptoms of this disease in its incipiency, and the principles of treatment; that the disease begins extra-articular and later on extend to the articular surfaces on account of their lessened vitality, thereby making them the paths of least resistance? What is the object of extension and counter-extension? Is it not to preserve as far as possible the integrity of the joint; to limit the disease; to prevent deformity?

Deformity does not exist until there is a pathological change in the structures entering into the formation of the articulation.

This change produces a change in leverage of certain groups of muscles, which directly antagonize each other in their action. The muscles then contract on different lines than they did while the joint surfaces were intact.

Without entering a discussion of the physiological reasons why hip joint disease is primarily osseous or why the bacilli would be more liable to show special affinity for the bone instead of the synovial membrane or cartilage, any farther than has been stated before, I will proceed to consider the proper mode of treatment, as the object at the beginning of this paper was to reason from general symptoms and principles of treatment. The value of this knowledge as said in the beginning cannot be over estimated. If we were positive as to the location of the disease in its incipiency, we can more easily devise methods of treatment which will limit the disease to the osseous

structures and preserve the joint. If we can reasonably conclude that hip disease is primarily osseous, what is our duty? Of what value is it to us?

1. To limit disease.
2. Prevent deformity.

If the disease can be limited before it reaches the articular surfaces, deformity is prevented. How can this be done? Is fixation, extension and counter-extension sufficient to immediately limit the disease? Is any surgical interferance which opens the joint justifiable in the early stages? We are not compelled to open the joint, nor would it be advisable to try to attack the disease from any point intra capsular, but it is advisable to limit the disease by surgical interference if it can be done without opening the joint.

In 1867 Fitzpatrick proposed an operation which was afterwards revived by Stoker, and later frequently performed by Lovatt and others, which consisted in opening into the great trochanter with a trephine and then drilling in as far as safe, without injury to the articular surface in the direction of the axis of the neck of the femur, and with a curette evacuating the diseased tissue, providing subsequent drainage.

The operation proposed and adopted by Lovatt and others, to my mind would be the most feasible one in connection with mechanical treatment. However, it is objectionable in some respects. To open the whole tract of neck of femur from trochanter major to head would injure healthy structures unnecessarily and require a much longer period for repair, and at the same time be unable to reach the diseased focci.

I will suggest an operation on almost the the same line which, in conjunction with mechanical treatment would seem to fulfill all indications. With a large trephine, one-half inch in diameter, make an opening into the great trochanter, through the compact portion of the bone. After reaching the cancellous portion with a small drill, make two openings parallel with axis of neck of femur, one-half inch apart, following on a line parallel with the junction of the cancellous and compact portion of the bone. The canals thus made to communicate with each other at their extremities. A small curette can then be used and each canal have separate drainage provided. The advantage of this operation would be:

1. Definite drainage obtained at once.
2. The articulation can be preserved.
3. If hip disease is of osseous origin. this operation would provide early relief, limit the disease and prevent deformity.

THE New York Board of Health is putting up vaccine virus in liquid form. The capillary tubes containing it are supplied to public institutions free of charge and to medical men at a low price. In using it the usual form of scarification is adopted, and the drop of virus from the tube is rubbed in with a small strip of wood that accompanies it.

A NATIONAL memorial monument to the memory of Dr. Edward Jenner is likely to be erected before long in England. Last month a large meeting was held at St. George's Hospital, London, to discuss the matter, where Sir Joseph Lister presided, and at which most of the leading medical men of England were present.

DR. HARE reports in the *Pioneer Mail* that of the coolie laborers on the railway from Assam to Burmah via the Hukong Valley, only 2.55 per cent. of those inoculated with cholera virus died from cholera, while 19 per cent. of those not so inoculated perished when the conditions were otherwise identical with both.

THE Allegheny County Society and the State Medical Society of Pennsylvania are seeking to have a law passed to have all executions of murderers in that State done by asphyxiatien. The gas will be turned in upon then in a close cell.

Kansas Medical Journal.

PUBLISHED WEEKLY

BY THE UNION PUBLISHING COMPANY.

SUBSCRIPTION PRICE, INCLUDING POSTAGE:

Per annum, in advance..... $1 00
Single copies..... 15 cents

Subscription may begin at any time. The safest mode of remittance is by bank check or postal money order drawn to the order of the undersigned. When neither is accessible, remittances may be made at the risk of the publishers by forwarding in Registered Letter. Address

UNION PUBLISHING CO.,
TOPEKA, KAS.

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Topeka, Kansas, Saturday, Jan. 23, 1897.

THE editor of the *Medical World* has given space in that journal to contributions on the subject of the prevention of conception. While this subject has been tabooed by journals, societies and the profession, we cannot help feeling that there is a medium ground, and that a judicious discussion of the methods used and the proper persons in whom they may be employed, will not only prevent much injury but may do much good. The editor of the *World* rightly says it is a subject upon which the lay public should be kept in ignorance, else the propagation of our race would soon be greatly diminished. There are numerous methods for this purpose in use by women of every class. One might almost say that every married woman has some method by which she attempts to prevent conception. One can easily discover these things by a little judicious inquiry. It is a habit, however, which the medical profession can hardly afford to countenance, and yet the physician may, where he finds an injurious habit is being practiced, suggest a safer remedy and prevent possible injury. It is doubtful if any of the prescribed remedies are always effectual and mechanical means are always uncertain. In his contribution to the columns of the *World*, Dr. H. P. Monroe, of Harris, Kas., gives his plan as follows:

"My remedy is as fol ows: I make a vaginal suppository of cocoa butter into which I incorporate from 6 to 10 per cent. of boracic acid and the same amount of tannic acid. These suppositories should weigh from ½ dram to 1 dram each. From three to five minutes before congress one of these suppositories is introduced into the vagina and pushed well up against the cervix. The cocoa butter having melted and set the boracic and tannic acids free, they act as an effectual germicide, thus destroying the spermatozoa.

The use of these suppositories causes no discomfort of any kind, but on the contrary they do great good in cases of cervical or vaginal inflammation.

"If the suppositories are too slow in dissolving you can incorporate a little olive oil, and they will dissolve quite readily.

"I have tested this mode of preventing conception more than six years with quite a number of women, all of whom had been bringing children into the world as fast as the laws of nature would permit, but since they began the use of this remedy not one of them has ever been pregnant, and all of them are enjoying the best of health.

"Therefore I am persuaded that the remedy is an effectual one when properly used, and at the same time is harmless."

This is practically upon the same basis as a preparation widely advertised and sold in Kansas a few years ago. The preparation was probably (?) boroglyceride which was injected before coitus by means of a collapsible tube to which an ordinary rubber nozzle was attached. The outfit was sold for several dollars and probably cost the

producer as many cents. Another contributor to the *World* suggests the use of douches of a sulphate of zinc solution, but the great objection to it is the necessity for immediate use and very few women are ready to get up for this purpose immediately after completing the sexual act. Another suggests the silk sponge, which is probably as effective a preventitive measure as any suggested, but as with many other mechanical appliances there will doubtless be some loss of enjoyment. Of all these methods suggested there is not one but what, in its essential features, is familiar to nearly every married woman in the land, and their experience as to the effectiveness of any of them would be worth more than all of our theories or discussions: but is it worth our while to elaborate the theories of men or women for such a purpose? The men who contributed these items had no desire to prostitute our noble calling but fully appreciate its ultimatum, the preventition of disease. It is upon this ground alone that we believe medical journals or societies can afford to discuss the subject. That many of the appliances used are injurious nearly every practitioner has reason to know. The "womb veil" or soft rubber pessary is claimed to be a very effective measure, but many severe and serious ulcerations have been produced by its long and careless use. The sponge is often neglected, sometimes left in position for days or weeks and forgotten and as an irritating foreign body soon gives the gynecologist a patient. We believe it the duty of every practitioner to thoroughly understand the different plans in vogue, and where it is impossible by argument or reason to prevent he should suggest the less injurious measures for those in which there is danger. It is possible that many women endanger their lives by pregnancy, and to these the physician owes his best advice, but means for the preventition of conception should not be suggested until he has assured himself beyond possible doubt that the patient is in danger.

MISCELLANEOUS.

A Case of Impregnation Without Penetration.

Medical Press and Circular.

A healthy looking girl, aged sixteen, recently attended the West London Hospital complaining that she had not menstruated for nearly five months. The monthly periods had, previous to their sudden cessation, been perfectly natural in every respect. There had been no abdominal pain, and during the period of amenorrhea robust health had been enjoyed.

The patient was tall for her age, of bright complexion, and there was no trace of anemia. The breasts were prominent and tense; areolæ pigmented, mucoid secretion easily expressed from both nipples.

The abdomen was full, but not markedly prominent. On palpation an elastic tumor was felt rising above the pubes nearly to the navel. It did not harden on manipulation, and no fetal parts could be felt. It was dull on percussion, dumb on auscultation. On the passage of a catheter, a few drops of urine escaped from the bladder, and the size of the abdominal tumor was in no way diminished.

The external genitals were well developed. The inner surfaces of the labia presented a distinct violet coloration. The hymen was intact. The hymeneal orifice was small, admitting the extreme tip of the finger, but when the finger was passed further, the margin of the hymen was put tightly on the stretch, and the patient, who did not seem to be at all neurotic, experienced so much pain that the examination was completed with difficulty. The cervix was soft—no fetal part could be felt. Bimanually the abdominal tumor moved and seemed to be continuous with the cervix, and I felt almost certain that it was the body of the uterus. No positive opinion was given. A month later the patient was again examined. The abdominal tumor had extended above the

navel; it showed no contractions and still remained dumb to most careful auscultation. But now the outline of the fetus, fetal parts, and fetal movements could be felt. The hymeneal orifice was as small as on the previous occasion, and the vaginal examination again caused much pain. There was no longer any reason to refrain from giving a positive opinion.

The patient, who appeared to be much distressed, then stated of her own accord, that pregnancy could not have taken place. Coition had once been attempted, by a man several years older than herself, but on that occasion she experienced much pain, penetration had not occurred and the semen had been deposited partly on the external genitals and partly on her clothing. The man had told her that she could not possibly become pregnant as penetration had not occurred, which, he stated, was shown by the fact that there had been no trace of bleeding.

When the patient was first seen, although I felt almost certain of the diagnosis, I did not give a positive opinion for the patient was a mere child, the condition of the hymen seemed to me to prove that penetration had not taken place and there were no absolute signs of pregnancy.

I am inclined to believe the patient's story. I am well aware that penetration does not always rupture the hymen. I have myself seen cases in which a perfectly intact hymen will dilate with the greatest ease to admit two and even three fingers without rupturing or causing the slightest pain. I have seen such a condition in a child of fourteen.

But the case above recorded was very different. One finger passed with difficulty, putting the hymeneal orifice tightly on the stretch and causing great pain. The passage of two fingers would, I think, certainly have resulted in rupture.

These cases of impregnation without penetration are not common, and I think that this record of such a case may be interesting.

The late Dr. Mathews Duncan has reported a very interesting case in his "Clinical Lectures" in the chapter "On Retention of Mucus."

Treatment of Ordinary Ear Affections.

American Medical Review.

Dr. F. H. Hoover contributes a paper, "A Few Remarks Pertaining to Diagnosis and Treatment of ordinary Ear Affections," to *Atlantic Medical and Surgical Journal.*

Dr. Hoover advises examination of teeth when seeing a patient for the first time who complains of severe pains in the ear, as the pain may be the result of decayed teeth or neuralgia. He also remarks:

Acute suppurative otitis may be the result of an acute catarrhal trouble. The ear discharges pus. Always after cleansing out the canal have the ear inflated so as to force out any puss that may be posterior to the drum membrane. Wipe out this, then with a pledget of cotton on an applicator dipped in a 40-grain nitrate silver to 1-ounce water solution, touch the ruptured spot on drum. This treatment, if possible, should be done two or three times a week, and the patient should wash the ear out three times a day with warm water and use peroxide of hydrogen after doing so, *Never*, in these acute cases, use boric acid, either in solution or powdered form. Eczema of the ear is frequently the result of irritation, by scratching the ear with a pin, fingernail or hairpin, and sometimes is the result of a running ear, blood disease, etc.

Local applications two or three times a week of tincture of iodine direct to the affected part, or the use of oxide zinc ointment, I prefer, or touching the same with nitrate of silver, or dusting with borax powder. Keep as dry as possible (not using water to the ear) and the eczema will soon get well. Chronic suppurative otitis media is in my experience more often met with than any of the aforementioned diseases, and, as a rule, very good results are obtained in a comparatively short space of time; that is, if the patient can come for treatment *three* times a week, and will diligently persevere in carrying out instructions at home. After washing out the ear look for the cause of the discharge; should granulations be seen scrape them out

with a small wire curette made expressly for the purpose. Sometimes these granulations are behind the drum; possibly polypi may be seen, and if small can be scraped away with a curette, or pulled away, if large, by a pair of forceps. Best use a 4 per cent. solution of cocaine in the ear to alleviate the pain before operating. The after-treatment is nitrate of silver, which I use in strength from a 40-grain to 1-ounce solution upwards. Boric acid can be used three times daily, or peroxide of hydrogen. I would not advise anyone to attempt to operate beyond the drum unless he has done considerable ear work.

Antiseptic Insufflations in Whooping Cough.

Moizard (Journ. de Mod. et de Chir. Prat.)

℞ Benzoin (powder), 10.0.
Salcylate of bismuth, 10.0.
Sulphate of quinine, 2.0.

This should be insufflated five times a day. Paroxysms of coughing are reduced in number and intensity, and the cure is rapid.

Biliary Calculi.

American Medical Review.

Of "Complications" and "Medicat Treatment" relative to the subject, the author, Dr. Henry Landis, in *The Medical and Surgical Reporter* says:

"When an impacted gall stone has resisted all medical treatment for its removal, the period of dangerous complications has arrived, and the case is relegated into the domain of surgery. Chief among the complications are hepatitis, localized peritonitis, hepatic abscess and pyemia, ulceration from the cyst or ducts into some neighboring organ, general peritonitis from the escape of a stone, bile or pus into the peritoneal cavity, etc.

"Since the recent advances in abdominal surgery, numerous successful operations have been performed for the relief of gall stone and its complications. Dr. A. W. Mayo Robson, of England, who has operated about one hundred times, says: 'A study of these cases operated on shows that where medical means have failed surgery holds out a very good hope of success in nearly every complication of cholelithiasis, if the patient be not too much exhausted to permit of any major operation.'

"When we are called to treat a well-marked case of biliary colic we should realize that we have on hand a very painful and formidable malady, which may, either primarily from shock, or secondarily as a result of associated complications, prove fatal. The treatment, therefore, must be prompt and energetic. This may be epitomized as follows:

1. Hypodermic injection of one-sixth to one-fourth grain of morphine sulphate.
2. Inhalation of chloroform and ether.
3. Hot fomentations.
4. Whether nausea and vomiting exist or not, frequent large draughts of warm water.
5. Hydrarg. chlor. mite., grains five to eight.
6. Two fluid ounces of pure olive oil every two hours.
7. Alternating with the oil, grains fifteen to twenty of sodium phosphate.
8. The anodyne and anæsthetic measures to be repeated when the pains demand it.

With reference to the *rationale* of this treatment I would say of the anodyne and anæsthetics, and the hot external and internal applications, that the former not only render the patient insensible to the pain, but both they and the latter tend to relax the spasm of the ducts and thereby facilitate the passage of the stone. That olive oil dissolves cholesterin calculi at a temperature of 98° Fah., outside of the body, I have demonstrated by experiment, and that it may insinuate itself into the ducts of the liver from the duodenum, if given in large doses, is quite probable. Whether it effects a slow solution of the stone, or facilitates its passage by lubricating the ducts, or by relaxing their spasomdic action, on the same principle that "oil on the troubled waters" stills them, I do not know. Nevertheless, I

firmly believe that the oil is an efficient remedy in this disease. It is presumed that the oil should be a genuine, unadulterated article.

It is important that a thorough examination of the stools should be made in all cases. Every evacuation should be carefully washed, dissolved and sifted, and this is a work that very few untrained nurses will faithfully attend to. The finding of the stone is no less satisfactory to the doctor for diagnostic purposes than to the patient for the knowledge that his enemy has departed. If the stone is large and has a smooth, rounded surface, we infer that no more are present in the cavity from which it came; if small and faceted, that more are to come.

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The Pulse in the Smallest Vessels.

The St. Louis Medical and Surgical Journal.

Herz (*Wiener Klinik*) has investigated this subject by a new method, which he terms "onychography." It consists of a delicately-poised sphygmograph, preferably of Jaquet's pattern, the button of which is placed upon the finger-nail, and kept there under regulated pressure. The limb being kept steady, a curve is traced, which according to the author, is liable to fewer sources of error than the ordinary sphygmogram. Like the sphygmogram, the onychographic curve shows the principal sets of waves, the largest corresponding to the respirations, the intermediate to the heart beat, the smallest to the secondary waves; but it has also two special varieties of large undulations, due respectively to changes in the width of the arterioles and in the rapidity of the blood flow. Differences in the condition of the pressure within the arteries and capillaries are expressed by want of correspondence between the sphygmograms and the onychograms. The onychogram rises during inspiration and falls in expiration, these varieties being accentuated by dyspnea, and diminished by valvular disease of the heart, with the exception of tricespid regurgitation. When the cardiac rhythm is irregular in force the rapidity of the blood flow is affected, and large undulations appear upon the onychogram, through the sphygmogram may appear to be normal. The onychrogramic waves are diminished in size and rounded off under condition of psychical strain, such as the performance of elaborate calculations. Heat increases and cold diminishes their volume; but the latter, if prolonged, eventually leads to dilatation. In jaundice the waves are very marked, confirming Drasche's view that the capillary walls are paralyzed in cholemia; the onychogram in this case resembles that in aortic regurgitation. In fever there is a sharp descent from the summit of the curve, which is followed by a plateau; the character of the rise varies, and often tends toward reduplication. The bifid apex is especially marked in inflammatory affections of the respiratory organs, and Herz considers the second peak to be transmitted through the veins from the right heart. Affections of the mitral valve tend to abolish the onychogram, while aortic disease increases the excursions, except when associated with rigidity of the small vessels. In sclerosis of the aorta and larger vessels, although the pulse is much smaller than normal, the cardiac and repiratory waves of the onychogram are much increased in size; so that it must be concluded that the smallest vessels, whose walls are not muscular, pulsate more vigorously the greater rigidity of the tubes connecting them with the heart The author hence deduces that the endarteritic process cannot commence in the smallest vessels, but must in them be secondary to similiar changes in the aorta and larger arteries. Eventually this is associated with obliterative inflammation of the intima of the arterioles; hence these researches are strongly opposed to the Gull and Sutton theory of arterio-capillary fibrosis.

THE medical men of Great Britian have raised a large fund to defray the expenses of Dr. Cullingworth in his recent trial. The sympathy for him among his professional brethren is naturally very strong.

Joint Meeting Eastern Kansas Medical Society and Topeka Academy of Medicine and Surgery.

The Eastern Kansas Medical Society and the Topeka Academy of Medicine and Surgery convened in joint session in A. O. U. W. Hall, at 7:30 p.m., Tuesday, January 12, 1897 Dr. Ida Barnes, president of the Academy, presided.

There were present: Drs. Stewart, Alkire, Boyle, Wilson, Bunn, Hamilton, Miner, Pettyjohn, Ward, Munn, Adams, McCandless, McClintock, Barnes, McVey, Storrs, Minney, Lindsay, McLaughlin, Evans, Sheldon, Tefft, Jones.

Paper—*The Osseous Origin of Hip-Joint Disease:* D. D. Wilson, Nortonville (See page 43.)

Discussion—Bunn: I presume the line of treatment is along the line of advancement. I know of no better proceeding and could suggest none.

McClintock: The doctor opens some new thought. This line of operative procedure has been done to such a limited extent that it hardly receives thought. He takes the proper stand in saying the disease is of osseous origin. It looks to me as if it were always osseous in origin. If so, the proper treatment would be to go in early rather than to allow it to burrow into the joint and have destruction of the joint. From some other anatomical reasons I believe it to be of osseous origin. The blood vessels are enlarged and the current slowed and germs are carried through the blood current. The slowing of current accounts for the deposit. The corpuscles adhere to the walls of vessels with the bacilli. Another condition: this disease occurs in growing children where bones are soft, the bending and shortening of these bones and the flexion of the vessels producing obstruction to blood current. From this is a cause of the location of the germ.

Ward: It seems to me the principle of treatment must be that of extension. We may have cures by mechanical appliances without surgical operations.

Munn: The blood supply is almost entirely through one articular branch, which is subject to pressure. I can hardly imagine so radical a measure as the operation suggested. Senn follows the iodoform injections into the joint with wonderful success.

Storrs: One point worth speaking of in relation to operation: so many cases which go on to operation incur great risk to life. If after a month of mechanical treatment no benefit is seen, it would seem this is a conservative measure.

Wilson: Whenever we interfere with the articular surfaces we have deformity. The operation suggested should be done in connection with mechanical treatment; by relieving intra-articular pressure we increase vitality. I heard Dr. Murphy say that in less than twelve months no prominent surgeon would use iodoform injections in tuberculosis. If we can limit the disease before it extends to articular surfaces we will prevent deformity

Dr. McClintock presented a case which had been sent to him for operation. It had been called a case of enlarged tubercular glands. Very large pendant masses appeared on either side of the neck through which the pulsations were readily felt, giving a thrill which gave much the impression of aneurism. The vessels were enlarged. The doctor said he considered it a case of the aneurismal form of diseased thyroid and that there would be dangerous hemorrhage in an operation for removal.

Dr. Sheldon opened a discussion on "Empyema." He said: The early treatment of empyema was altogether aspiration, later came surgical interference because aspiration was a failure. Today aspiration, when we have pus in pleural cavity, is a failure because it does not furnish sufficient drainage. Aspiration is therefore now only exploratory. Surgical operations for empyema are divided into two classes:

1. Those where there are no adhesions.
2. Those of long standing with adhesions and loss of lung function.

Always operate with extreme aseptic precautions, else you may convert a hydrothorax into an empyema. The surgical

treatment consists in opening the cavity at most dependent part and make opening extensive enough for drainage. At times there will be indications as to the point for opening. Open in mid-axillary region at about seventh or eighth intercostal space. The drainage should be the size of a good rubber drainage tube. Make the opening close to upper border of rib in order not to injure intercostal artery. Remember, the opening through the soft tissues should be a little above with arm raised, else you will have valve opening when arm is lowered. If two openings are found necessary make second one one or two inches away and fasten tubes with safety pins. Next important question: Shall we irrigate? In recent cases would not irrigate. In old, long-standing case would irrigate. More danger from too much than too little irrigation. Deep inhalations aid in expanding lung and filling cavity. In second class those of long standing, where you cannot get sufficient drainage through intercostal spaces, then remove one or more ribs, but not unless necessary, because when bone is cut there is more danger of infection. Would recommend in this second class Estlander's operation. In removing rib periosteum should be removed, else there will be bone re-formed.

Munn: I believe in some of the cases in children aspiration will cure. Only one surgical procedure that will give drainage, that is resection.

McClintock: There are cases that can be cured by aspiration when pus was present; they are in children. I think it always worth while in adults. Cavity never should be washed. Opening in dependent portion sounds well but don't drain well. The valve opening is condemned tonight, yet it is directed by most authors; otherwise air constantly enters pleural cavity. If you don't get valve opening make a valve with silk.

Ward: If I had a case of empyema I would make a double incision and irrigate with iodine solution.

Wilson: Where periosteum is left and bone re-forms the bone is shortened, but provides protection to chest cavity. Would prefer to leave periosteum.

Sheldon: If you irrigate use the simplest possible solution.

McClintock: I would not irrigate because I would injure patient. It would dilute the pus and make it more readily absorbed. Drainage of any pus cavity is sufficient. Never irrigate chest because many patients die immediately on injecting fluid into chest. Introduction of air is bad; for that reason make valvular opening.

Ward: I would not fill the cavity; I would have double opening and allow water to go in and out.

The next place of meeting for the Eastern Kansas society was left to the judgment of the president and secretary.

Societies then adjourned.

Sarcoma Cutis Treated Successfully With Arsenic.

Arch. f. Derm. u. Syph.

Prof. A. J. Pospelow refers to a case of sarcoma of the head of the tibia associated with adenopathy of the inguinal glands in a woman, aged 23, which was caused by Samter in two years by means of Asiatic pills (the patient took 2,600 pills in two years). Lassar reported a case of melano-sarcoma cured with arsenic. Pospelow describes the case of a woman, aged 50, with sarcoma of the nose and also involving the left angle of the eye and left cheek. The tumor of the nose was removed by operation, but relapsed. The administration of arsenic was begun October 13, 1894, in the form of Asiatic pills (ac. arseniosis, o. 5; pulv. piperis nigr. 4. 0; pulv. gummi arabici, 10.0; aq. destill. 9. s. ft. pil., No., 100), beginning with one pill and increasing the dose one pill every five days. One month the patient took seven pills per diem; the tumor had changed but very little; the disseminated nodules had remained intact. In view of a possible cumulative action of the arsenic, the patient was ordered one glass of Hunyadi-Janos once per month, and the drug discontinued on that day. November 24 the patient was taking eight pills per diem. The tumor on the nose had decreased consider-

ably in size; the disseminated nodules on the left cheek could scarcely be felt. The nodule on the eye had become flatter and had begun to undergo involution. The patient took nine pills per diem without inconvenience. January 5, 1896, she contracted influenza associated with herpes zoster and otitis media, In consideration that herpes zoster—with an occasional edema palpebrarum and anesthesia of the finger tips—pointed to toxic influence of the arsenic, the remedy had to be discontinued. It was shortly resumed. January 31 the disseminated nodules had disappeared, but the tumor on the nose commenced to vegetate rapidly. August 8 the patient was entirely cured. The pills had been increased to eight per diem and were gradually decreased to one per diem, and finally omitted. The sarcoma had entirely disappeared, and only a slight hyperemia remained to mark its site. The author emphasizes the fact that it is necessary to continue the use of the arsenic for a long period. During six months the patient had taken 800 Asiatic pills and 1.00 Fowler's solution. Pospelow states that a thorough and permanent cure of sarcomata by arsenic administration is hardly to be expected, as they are quite likely to recur, but quotes the case above as a striking example of its possible beneficial effect.

Arterial Catheterization.

The Atlantic Medical Weekly.

In a paper before the Pan-American Congress, Dr. Roque Mancozet presents a short history of two patients on whom he performed amputation of the thigh in the lower third on the first, and of the leg at the point of election in the second. Both men were operated on the right side and the cause was dry gangrene.

In the first case a rheumatic endocarditis produced embolism of the femoral artery, thereby causing gangrene of the foot and leg up to the upper third. Having made certain of the diagnosis, he amputated the thigh in the lower third, and to his great surprise, on removing the hemostaxis, no arterial blood issued, but only venous. The femoral artery was completely open and empty, and he then decided to perform a real arterial catheterization, with the object of removing the obstruction in the artery and saving the patient from the disarticulation of the thigh. This operation was carried out by means of an American urethral bougie, made of whalebone, and carefully disinfected, by lightly pressing against the obstacles, and with the help of the left hand, practicing a soft massage in its neighborhood and over the artery. The operator commenced first by moving embolus and then loosened it, immediately after which a torrent of arterial blood burst forth.

The history of the other case is similar to the above, and in both cases his methods resulted in a perfect and lasting success.

The author afterwards entered on some practical observations arising from an analysis of the two cases, and requested the opinion of the members of the section.

Resolutions Adopted.

The following resolutions were adopted by the State Board of Health of Rhode Island. at a meeting held Decdmber 17, 1896:

Resolved, That all applicants applying for a certificate to practice medicine in the State of Rhode Island, presenting a diploma from any foreign medical school, must pass an examination upon the following subjects: Anatomy, physiology, chemistry, therapeutics, materia medica, surgery, theory and practice of medicine, obstetrics, gynecology, hygiene and State medicine. An average grade of 80 per cent. will be required as conditions of receiving a certificate to practice medicine or surgery in this State.

Resolved, That the diplomas from all recognized medical colleges in the United States, requiring a minimum of three years' study of medicine and two courses of lectures for graduation prior to 1885, shall be recognized as in good standing, and diplomas issued by the same prior to that date, properly verified, shall entitle the holder thereof

to a certificate to practice medicine and surgery in this State.

Resolved, That for ten years ending January 1, 1895, all medical colleges exacting the foregoing requirements, shall, by virtue of such fact, be recognized as in good standing and to include the year 1891, but that no medical college shall be recognized as in good standing which has not since 1891, possessed the foregoing requirements, and which has not in addition, exacted an entrance qualification and attendance upon three regular courses of lectures, no two courses to have been given in any one year, as a condition of graduation.

Resolved, That on and after July 1, 1895, no medical college shall be recognized as in good standing which does not require the entrance qualification representing as a minimum a high school diploma or its equivalent, as a prerequisite for matriculation; which does not possess an adequate equipment for teaching medicine; which has not the clinical departments of anatomy, physiology, chemistry, therapeutics, materia medica, surgery, medicine, obstetrics, histology, pathology, bacteriology, ophthalmology, otology, gynecology, laryngology, hygiene, and State medicine, and which does not enjoin attendance upon 80 per cent. upon four regular courses of instruction, of not less than twenty-six weeks each, in four different years, and which does not exact an average grade of 75 per cent. on examination as conditions of graduation.

Resolved, That no medical college shall be recognized as in good standing, in which the student is conditioned in one or more of the branches as requirements for matriculation, or that admits to advanced standing, students that are matriculants of colleges of pharmacy, or colleges of veterinary medicine, or upon the posession of an academic degree.

SOUTHERN Russia is being scourged by severe epidemics of scarlet fever and Asiatic cholera. The schools have been closed and cholera barracks have been erected in a number of cities.

Leucocytosis and Immunity, With a Critical Analysis of the Theory of Neuclein-therapy.

Boston Medical and Surgical Journal.

Dr. Walter A. Wells, of Washington, in the *Medical News* for October 17, 1896, discusses at length the theory of nuclein-therapy, and summarizes his careful and interesting articles as follows:

1. Notwithstanding the long-continued conflict as to the importance of the cell and of the lymph respectively, as the protecting agency of the body, it is probable the claims on each side will be found reconcilable.

2. There is no reason for regarding the leucocytosis, which appears after the introduction of nuclein into the system, as differently produced than that which follows from a great number of other agents many of which are poisons.

3. Theories of artificially induced leucocytosis, which assume an essential new production of leucocytes by the blood-making organs, are inconsistent with the fact that the blood-making organs send forth only mononuclear cells, whereas in all these forms of leucocytosis, the polynuclear are only or chiefly increased.

4. Also, Lowitt's theory of leucolysis and consequent leucocytosis fails to stand the test of experiment or of reason, in the light of unknown physiological principles.

4. The most rational explanation of leucocytosis is, including the invariable antecedent, leucopenia, according to the principal of themotaxis. The predominance of polynuclear cells is thereby accounted for in the greater sensitiveness of these forms to themotactic influences.

6. We must regard, therefore, a leucocytosis as only a local condition; that is to say, only a determination of the white cells into the peripheral circulation, without any real, significant, absolute increase of the whole number of those cells. This view is supported by a number of experiments, which showed that the stage of leucocytosis as found in the peripheral vessels, there is a coincident decrease in the

internal vessels.

7. The leucocytosis produced by nuclein is of this kind. The uric acid found in increased amount in the urine of patients after administration of nuclein may be formed from the nuclein direct and not from the white blood corpuscles. There is, moreover, no constant correspondence in the number of leucocytes and the amount of uric acid excreted, for there may be leucocytosis without increase of the uric acid, as there may be often an increase of uric acid without leucocytosis.

8. There is some reason for believing that, of all leucocytes, those possessed of the eosinophilic granules play the most essential role in protecting the organism against infectious disease. A suggestive correspondence exists between those diseases which are distinguished by an augmentation of eosinophiles and diseases antagonistic to tuberculosis.

The Therapeutic Action of the Cold Bath in Typhoid Fever as Determined by a Study of the Respiratory Chemistry.

In the November number of the *Archives Generales de Medicine*, Robin and Binet report their studies on this subject:

They made the discovery that the cold bath increased the amount of air inspired and expired and increased the amount of carbonic acid gas excreted and the amount of oxygen absorbed.

After carefully elucidating the various details of their studies, they conclude:

1. That in typhoid fever and other infectious diseases there is an exaggerated loss of nutrition, and large quantities of waste products, as well as of bacterial ptomaines invade the tissues, and are not execreted as fast as they are formed. These products are not split up owing to the decreased absorption of oxygen.

2. That our aim in such disease should be to increase oxidation.

3. The cold baths have a remarkable oxidizing power.

4. That they increase the respiratory processes in every way, but above all they increase the total sum of oxygen taken in, and they increase its absorption.

5. The respiratory change does not begin to take place until half an hour after the bath and reaches its maximum in an hour.

6. That the duration of the process cannot be sharply fixed, as it varies considerably.

7. That if the bath does not reduce the temperature it usually does not produce the change above mentioned.

With regard to the mechanism of the cold bath the authors states that it acts:

a. In diminishing the temperature and thus lessening the increased tissue destruction and the production of the toxines, which are important causes of fever.

b. In increasing oxidation and thus causing the transformation of the bacterial toxines into harmless, easily eliminable, soluble products.

c. By raising the arterial tension and increasing the heart's action, from which causes diuresis recurs and the products of tissue change are more easily carried off.

The effects are all stated to be due to a reflex action from the nervous system.

Notes on the Treatment of Fæcal Fistulæ.

Abstracted from the Medical Record of October 24. 1796.

At the thirteenth annual meeting of the New York State Medical Association, which was recently held in New York City, Dr. Frederick Holme Wiggin, of New York county, presented a paper with the above title. The chief cause of the occurrence of fæcal fistula was stated to be the delay in resorting to operative measures to which patients suffering from typhlœnteritis, or strangulated hernia were frequently subjected while their ailment was carefully diagnosticated. The view recently advanced by a writer on the subject under consideration, that the best treatment for this condition consisted in its prevention, was concurred in. But in the case in which this mishap had occurred, it was pointed out

that if the opening was of small size, was located near or below the ileo-cæcal valve and no obstruction to the fæcal current existed, operative measures might be deferred, as in most instances the opening would close in a short time spontaneously. On the other hand, if the bowel opening was of large size, and situated laterally, or some distance above the ileo-cæcal valve, and was accompanied by the escape of a large proportion of the contents of the bowel, operative procedure for the closure of the opening should be speedily undertaken.

The histories of three cases, successfully treated by surgical measures were cited. In two instances, the patients were inmates of the Hartford (Connecticut) Hospital, and were operated upon by Dr. Wiggin, by reason of an invitation which was extended to him by the medical board of that institution, after several previous unsuccessful efforts to close the bowel openings had been made. The occurrence of the fistulous opening was due in the first case, to delay in resorting to surgical treatment of typhlenteritis, from which disease both patients originally suffered. In the third case, the bowel opening was caused either by the pressure of the gauze used to drain the abscess cavity, or by an ulcerative process which originated from within the gut. In the first case, as the opening in the bowel was of large size, irregular in shape, and the gut was thickened and friable, the diseased portion of the bowel containing the opening, about four inches in length, was excised, and the divided ends joined by the suture method of Maunsell. In the second and third cases, the bowel openings were situated in the head of the colon, and were in both instances closed by means of several rows of sutures, after which the omentum was drawn over the former site of the fistula, and retained in position by sutures.

In describing the technic employed, the writer laid much stress upon the following points, viz.: the thorough disinfection of the parts including the interior of the bowels, with hydrozone, the closing of the intestinal opeding, when possible, before the breaking up of the peritoneal adhesions, and the opening of the general cavity, the removal of any existing obstruction to the fæcal current, the disinfection of the bowel surface with a solution of hydrozone, before and after the placing of the sutures, the control of oozing from the cicatricial tissue by the same means and the closure by a single row of silk-worm gut sutures without drainage of the abdominal wound after the washing of the peritoneal cavity with saline solution, some of which is allowed to remain.

In concluding, the writer stated that ever since September, 1893, when he had proved the value of hydrogen dioxide as an effective antiseptic, which in proper solution did not unduly irritate the peritoneum, which followed by a six-tenth per cent. saline solution, he had had little danger of causing septic peritonitis from the accidental escape of pus or fæcal matter while operating; and that when this complication had occurred, it had been invariably successfully met by the use of hydrogen dioxide in the manner described in the paper. He advised the excision of the diseased portion of the gut in those instances where it had become much thickened and friable, and expressed the belief that with a clearer understanding of the objects to be attained by operation—*i. e.* the restoration of the integrity of the intestinal canal, as well as the closure of the opening in the bowel—future operations for the cure of fæcal fistula would more frequently result successfully than they had in the past.

The paper was discussed at some length by Dr. H. O. Marcy, of Boston, and Dr. Joseph D. Bryant, of New York county, who commended it, and, in the main, they endorsed the writer's views.

Laxative for Children.

Journ. de Med.

℞ Sodii bicarbonatis, ʒ iij.
Pulv. rhei, ʒ ij.
Sodii sulph., ʒ j.
Ol. menth. pip., m xx.

M. et Sig: Half to one teaspoonful before breakfast.